1979

Renewed Judicial Controversy over Defective Product Design: Toward the Preservation of an Emerging Consensus

James A. Henderson Jr.

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I. INTRODUCTION

No other subject in the field of products liability exceeds defective product design for having produced disagreement and confusion among courts and commentators over the past decade. It is, therefore, ironic that on the eve of what could fairly be described as the achievement of a general consensus regarding the appropriate conceptual basis for determining liability for defective design, three potentially influential courts have threatened to thrust that issue once again into controversy. Within the year just past, the Supreme Court of California in *Barker v. Lull Engineering Co.*,[1] the Supreme Court of Pennsylvania in *Azzarello v. Black Brothers Co.*,[2] and the United States District Court for the Eastern District of Wisconsin in *Schuldies v. Service Machinery Co.*,[3] have rendered decisions in product design cases which, if read literally and taken seriously, could postpone the achievement of consensus indefinitely. This Article examines these decisions critically, demonstrating that they are substantially in error. It is offered in the hope of reducing the threat to consensus posed by these decisions and helping to preserve a lasting peace regarding the appropriate conceptual basis of liability for defective product design.

II. THE EMERGING CONSENSUS

Much of the confusion traditionally surrounding the issue of defective product design may be traced to the inherent differences between cases involving manufacturing flaws and cases involving faulty design, and the inadequacy of the concept of "defect" as a guide to decision in the latter category.[4] In a flaw case, the manufacturer's intended design provides a built-in standard against which to measure the adequacy of an individual product. A flawed product

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1. 20 Cal. 3d 413, 573 P.2d 443, 143 Cal. Rptr. 225 (1978).
2. 391 A.2d 1020 (Pa. 1978).
3. 448 F. Supp. 1196 (E.D. Wis. 1978).
4. These differences have been chronicled elsewhere. *See, e.g.*, Henderson, *Judicial Review of Manufacturers' Conscious Design Choices: The Limits of Adjudication*, 73 COLUM. L. REV. 1531 (1973); Keeton, *Manufacturers' Liability: The Meaning of "Defect" in the Manufacture and Design of Products*, 20 SYRACUSE L. REV. 559 (1969).

departs dangerously from the great majority of products manufactured according to identical design specifications; the inquiry into whether or not a product is flawed is essentially mechanical.[5] In a design case, in contrast, no built-in standard is available. By definition, the plaintiff in such a case is attacking the adequacy of the design itself; the inquiry focuses on the value choices implicit in the manufacturer's design specifications. Thus, in a case involving an allegedly defective product design, the court must bring to bear a standard of judgment external to the product itself. In answering the question "How much design safety is adequate?", the court must develop, or adopt from some legitimate extrajudicial source, an objective standard of adequacy.[6]

Given the open-ended nature of the judgmental task presented in design cases, it is not surprising that courts and commentators have disagreed over the appropriate conceptual basis for determining defective product design.[7] In recent years, however, a consensus has gradually developed regarding the appropriate conceptual basis of liability in these cases. Consistent with section 402A of the Second Restatement of Torts,[8] the issue of defective product design is to be

5. For an archetypical illustration of the manufacturing flaw case see Vandermark v. Ford Motor Co., 61 Cal.2d 256, 391 P.2d 168, 37 Cal. Rptr. 896 (1964) (brake failure). *See generally* Phillips, *The Standard for Determining Defectiveness in Products Liability,* 46 U. CIN. L. REV. 101, 103-07 (1977).

The inquiry, of course, amounts to something more than mere determination that one product unit has an imperfection that makes it different from the other units. Philosophically, it is necessary to rely on some principle of reasonableness to determine whether a particular mechanical imperfection is serious enough to warrant labeling the product "flawed." As a practical matter, however, most flaw cases involve imperfections serious enough to cause the product to fail in use, causing harm. In the typical cases in which flaws do not cause product failure, courts encounter analytical difficulties similar to those in design cases. *See, e.g.,* Tenney v. Seven-Up Co., 92 N.M. 158, 584 P.2d 205 (1978) (denying recovery for anxiety and stomach upset allegedly caused by an admittedly harmless foreign substance in a bottled soft drink).

6. *See generally* Phillips, *supra* note 5, at 103-05.

7. *See generally* Hoenig, *Product Designs and Strict Tort Liability: Is There a Better Approach?,* 8 SW. U. L. REV. 109, 109-12 (1976); Wade, *On the Nature of Strict Tort Liability for Products,* 44 MISS. L.J. 825 (1973).

8. RESTATEMENT (SECOND) OF TORTS § 402A (1965) provides,

(1) One who sells any product in a defective condition unreasonably dangerous to the user or consumer or to his property is subject to liability for physical harm thereby caused to the ultimate user or consumer, or to his property, if

(a) the seller is engaged in the business of selling such a product, and

(b) it is expected to and does reach the user or consumer without substantial change in the condition in which it is sold.

(2) The rule stated in Subsection (1) applied although

(a) the seller has exercised all possible care in the preparation and sale of his product, and

resolved by means of cost-benefit analysis, with the injured plaintiff bearing the burden of persuading the tribunal[9] that the costs associated with the defendant's design choices, including accident costs, exceeded the benefits of the design.[10] In essence, cost-benefit analysis in this context is based on the premise that the marginal increases in accident costs generated by a manufacturer's having chosen its product design over safer alternatives are unacceptable only if it can be demonstrated that they exceed the marginal benefits to be gained by having such relatively riskier product designs available to the public.[11] Some products, such as knives, are necessarily designed in

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(b) the user or consumer has not bought the product from or entered into any contractual relation with the seller.

9. *See* RESTATEMENT (SECOND) OF TORTS § 402A, Comment g (1965) ("The burden of proof that the product was in a defective condition at the time that it left the hands of the particular seller is upon the injured plaintiff.").

10. Many courts have taken this approach. *See, e.g.,* Union Supply Co. v. Pust, 583 P.2d 276 (Colo. 1978); Aller v. Rodgers Mach. Mfg. Co., 268 N.W.2d 830 (Iowa 1978); Stenberg v. Beatrice Foods, 576 P.2d 725 (Mont. 1978); Cepeda v. Cumberland Eng'r Co., 76 N.J. 152, 386 A.2d 816 (1978); Temple v. Wean United, Inc., 50 Ohio St. 2d 317, 364 N.E.2d 267 (1977); Kennedy v. Custom Ice Equip. Co., 246 S.E.2d 176 (S.C. 1978); Gonzales v. Caterpillar Tractor Co., 571 S.W.2d 867 (Tex. 1978). *But see* Heaton v. Ford Motor Co., 248 Or. 467, 435 P.2d 806 (1967) (test for defective design is what consumers actually expect in the way of performance, and not what they reasonably should expect); Berkebile v. Brantley Helicopter Corp., 462 Pa. 83, 337 A.2d 893 (1975) (instructing the jury in terms of the reasonableness of manufacturer's design choices is improper because it undermines the principle that the manufacturer is effectively a guarantor of its product's safety).

Similarly, a number of commentators have supported use of the cost-benefit analysis. *See, e.g.,* Dickerson, *Product Liability: How Good Does a Product Have to Be?,* 42 IND. L.J. 301 (1967); Epstein, *Product Liability: The Search for the Middle Ground,* 56 N.C. L. REV. 643 (1978); Hoenig, *supra* note 7; Keeton, *Product Liability and the Meaning of Defect,* 5 ST. MARY'S L.J. 30 (1973); Phillips, *supra* note 5; Wade, *supra* note 7; Weinstein, Twerski, Piehler & Donaher, *Product Liability: An Interaction of Law and Technology,* 12 DUQ. L. REV. 425 (1974); Comment, 80 DICK. L. REV. 633 (1976); Comment, 14 DUQ. L. REV. 25 (1975). *But see* Hubbard, *Reasonable Human Expectations: A Normative Model for Imposing Strict Liability for Defective Products,* 29 MERCER L. REV. 465 (1978) (notions of efficiency should play "residual role" in deference to actual human expectations); Comment, 6 RUT.-CAM. L.J. 189 (1974) ("unreasonably dangerous" properly excluded from definition of "defect" because incompatible with strict liability).

11. "Marginal" cost-benefit analysis focuses on the increases and decreases in costs and benefits incurred when one product design is replaced with another. If an injured plaintiff can show that the additional benefits (in the form of reduced accident costs) to be derived from the adoption of a safer design would outweigh the additional costs (in the form of production costs and decreased product utility) generated by the adoption of such an alternative, the plaintiff will have succeeded in demonstrating that the defendant's design choices were unreasonably dangerous. So long as a safer design alternative is thus available at acceptable levels of marginal cost, it is to be preferred, even if the total benefits of the design chosen by the defendant exceed its total cost,

such a way as to make them both risky and beneficial. As long as the benefits outweigh the risks, the product's design is not legally defective simply because it is risky.[12] According to the emerging consensus, it is necessary to assess the relative costs and benefits of both the defendant's design and safer alternatives in order to determine whether a given product design is unreasonably risky and therefore legally defective.

Perhaps the most influential treatment of the cost-benefit analysis in product design cases has been offered by Professor John W. Wade. In a much cited article,[13] Professor Wade developed seven factors that should be considered in determining whether the plaintiff has carried his burden of proof. Included among these factors are the utility of the product to its user and to the public as a whole, the likelihood that it will cause injury and the probable seriousness of the injury, and the manufacturer's ability to eliminate the unsafe character of the products without impairing its utility or making it too

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including accident costs. Thus, cost-benefit analysis in the present context is concerned with *comparative,* rather than *total,* costs and benefits.

For several different formulations of the basic cost-benefit approach, see Hubbard, *Efficiency, Expectation and Justice: A Jurisprudential Analysis of the Concept of Unreasonably Dangerous Product Defect,* 28 S.C. L. REV. 587, 604 & n.55, 605 (1977).

12. *See* RESTATEMENT (SECOND) OF TORTS § 402A, Comments i & k (1965):

> i. *Unreasonably dangerous.* The rule stated in this Section applies only where the defective condition of the product makes it unreasonably dangerous to the user or consumer. Many products cannot possibly be made entirely safe for all consumption, and any food or drug necessarily involves some risk of harm, if only from over-consumption. Ordinary sugar is a deadly poison to diabetics, and castor oil found use under Mussolini as an instrument of torture. That is not what is meant by "unreasonably dangerous" in this Section. The article sold must be dangerous to an extent beyond that which would be contemplated by the ordinary consumer who purchases it, with the ordinary knowledge common to the community as to its characteristics.
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> . . . .
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> k. *Unavoidably unsafe products.* There are some products which, in the present state of human knowledge, are quite incapable of being made safe for their intended and ordinary use. These are especially common in the field of drugs. An outstanding example is the vaccine for the Pasteur treatment of rabies, which not uncommonly leads to very serious and damaging consequences when it is injected. Since the disease itself invariably leads to a dreadful death, both the marketing and the use of the vaccine are fully justified, notwithstanding the unavoidable high degree of risk which they involve. Such a product, properly prepared, and accompanied by proper directions and warning, is not defective, nor is it *unreasonably* dangerous. . . . The seller of such products . . . is not to be held to strict liability for unfortunate consequences attending their use, merely because he has undertaken to supply the public with an apparently useful and desirable product, attended with a known but apparently reasonable risk.

13. *See* Wade, *supra* note 7.

expensive.[14] Some commentators have suggested shorter, simpler lists;[15] others have eschewed list-making altogether and have opted for a "reasonableness under the circumstances" test. Although there is considerable variation in how commentators describe what they are espousing, there is a basic consensus among them that liability in design cases is to be determined by a balancing of benefits and risks, with the plaintiff bearing the burden of demonstrating unreasonable risk.

Admittedly, some disagreement persists over whether negligence or strict liability should constitute the primary doctrinal basis for liability.[17] Under a negligence approach, the focus is on the reasonableness of the defendant manufacturer's conduct in choosing among available design alternatives.[18] Under a strict liability approach, the focus is on the reasonableness of the design itself.[19] Since the design ultimately adopted reflects the reasonableness of the manufacturer's choices in adopting it, however, the basic cost-benefit analysis undertaken in assessing liability will be substantially the same under either strict liability or negligence.[20] Professor Wade, who has suggested that, on balance, strict liability is preferable, has noted the possibility that the two theories might produce different outcomes in at least one type of case: that in which the defendant can show that in the exercise of reasonable care he could not have known of the attendant risks at the time the relevant design choices were made.[21] In such a case, the defendant would be liable under a theory of strict liability but not under a negligence theory. Despite this difference, however, Professor Wade acknowledges that the basic cost-benefit analysis under both negligence and strict liability is substantially identical in product design cases.[22]

This is not to say that the persistent confusion over strict

14. *Id.* at 837-38.

15. For example, in § 104(B) of its recently promulgated *Draft Uniform Product Liability Law,* the Department of Commerce proposes five factors to be considered in determining the defectiveness of product designs. 44 Fed. Reg. 2996, 2998 (1979).

16. *See, e.g.,* Donaher, Piehler, Twerski & Weinstein, *The Technological Expert in Products Liability Litigation,* 52 TEX. L. REV. 1303, 1307 (1974).

17. *Compare* Hoenig, *supra* note 7, at 123-24, 136-37 (negligence) *with* Wade, *supra* note 5, at 826-27 (strict liability).

18. *See* RESTATEMENT (SECOND) OF TORTS § 398 (1965) ("failure to exercise reasonable care in the adoption of a safe plan or design").

19. *See* RESTATEMENT (SECOND) OF TORTS § 402A (1965) ("any product in a defective condition unreasonably dangerous to the user or consumer").

20. *See, e.g.,* Phillips v. Kimwood Mach. Co., 269 Or. 485, 498, 525 P.2d 1033, 1039 (1974).

21. *See* Wade, *Strict Tort Liability of Manufacturers,* 19 SW. L.J. 5, 15-16, 25 (1965). *See also* Phillips, *supra* note 5, at 116.

22. *See* Wade, *supra* note 5, at 841.

liability and negligence has had no ill effect on the development of a unified approach to product design cases. *Cronin v. J.B.E. Olson Corp.*,[23] decided by the Supreme Court of California in 1972, is one judicial decision in the recent period of growing consensus that, together with its progeny,[24] has done more than any other to foster lingering doubts regarding the appropriateness of the cost-benefit approach in design cases. In *Cronin*, the court unanimously held that under the strict liability theory set out in the leading California case of *Greenman v. Yuba Power Products, Inc.*,[25] a products liability plaintiff is not required to prove that a product was, in the words of section 402A of the Second Restatement of Torts,[26] "unreasonably dangerous" at the time of sale by the defendant. Instead, an injured plaintiff would merely be required to prove that the product in question was "defective" at the time of sale, and that the defective condition caused injury to the plaintiff. The court appears to have been obsessed with the idea of purging "an element which rings of negligence" from strict products liability.[27]

The *Cronin* case involved a manufacturing flaw: a weak metal hasp in a bread truck had broken while in use, causing plaintiff's injuries.[28] Elimination of the "unreasonably dangerous" element in flaw cases did little harm to the general accord of courts and commentators in that area. As explained above, the test for a defect in such cases is a rather mechanical comparison between an individual product unit and the rest of the product line, rather than a cost-benefit analysis.[29] In those cases in which the plaintiff cannot prove that the flaw in question was dangerous enough to have resulted in injury, he will have failed to meet his burden of proof of causation. Much of the content of the "unreasonably dangerous" element is therefore retained in the plaintiff's burden of proving causation.

In dictum, however, the *Cronin* court extended its holding to design cases,[30] thus creating the potential for serious confusion. By

23. 8 Cal. 3d 121, 501 P.2d 1153, 104 Cal. Rptr. 433 (1972).

24. *See, e.g.*, Butaud v. Suburban Marine & Sporting Goods, Inc., 543 P.2d 209 (Alaska 1975); Glass v. Ford Motor Co., 123 N.J. Super. 599, 304 A.2d 562 (1973), *overruled by* Cepeda v. Cumberland Eng'r Co., 76 N.J. 152, 000, 386 A.2d 816, 829 (1978); Berkebile v. Brantly Helicopter Corp., 462 Pa. 83, 337 A.2d 893 (1975).

25. 59 Cal. 2d 57, 377 P.2d 897, 27 Cal. Rptr. 697 (1963).

26. *See* note 8 *supra*.

27. *See* 8 Cal.3d at 132, 501 P.2d at 1162, 104 Cal. Rptr. at 442.

28. *Id.* at 124, 501 P.2d at 1155-56, 104 Cal. Rptr. at 435-36.

29. *See* note 5 *supra* and accompanying text.

30. In *Cronin*, the court stated,

> We recognize that the words "unreasonably dangerous" may also serve the beneficial purpose of preventing the seller from being treated as the insurer of its products. However, we think that such protective end is at-

eliminating the "unreasonably dangerous" element from the plaintiff's burden of proof, the court implied that cost-benefit analysis would not be the test for liability in such cases, but offered no alternative way to define what constitutes a "defective" design.[31]

Although some courts have followed *Cronin* in flaw cases,[32] the overwhelming majority of courts[33] and commentators[34] have rejected both the holding and the dictum in that case. The fact that *Cronin* has caused little lasting confusion is proof of the strength of the growing consensus concerning the appropriateness of using the cost-benefit analysis in defective product design cases. In the judgment of most post-*Cronin* commentators, the only intelligent approach to the issue of defective product design involves cost-benefit analysis.[35] If the concept of unreasonable design risk "rings of negligence," so be it.

Before proceeding with an analysis of cases, an additional preliminary matter must be clarified. Some observers, including this writer, have argued that a vaguely formulated reasonableness standard, such as a cost-benefit analysis, when applied on a case-by-case basis with no further definition, inevitably presents courts with a succession of judgmental tasks for which they are not well-suited.[36] The adjudicatory process is most appropriate for resolving issues by the application of rules sufficiently specific and defined to permit the parties to argue rationally that a proper application of the rules dictates a certain result.[37] The adjudicatory process is inadequate as a

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tained by the necessity of proving that there was a defect in the manufacture or design of the product and that such defect was a proximate cause of the injuries. Although the seller should not be responsible for all injuries involving the use of its products, it should be liable for all injuries proximately caused by any of its products which are adjudged "defective."

We can see no difficulty in applying the *Greenman* formulation to the full range of products liability situations, including those involving "design defects." A defect may emerge from the mind of the designer as well as from the hand of the workman.

8 Cal. 3d at 133-34, 501 P.2d at 1162, 104 Cal. Rptr. at 442.

31. *See id.* at 134-35, 501 P.2d at 1162-63, 104 Cal. Rptr. at 442-43. *See generally* Keeton, *supra* note 10, at 30-32.

32. *See* cases cited in note 24 *supra.*

33. *See* cases cited in note 10 *supra.*

34. *See* commentators cited in note 10 *supra.*

35. *See, e.g.,* Keeton, *supra* note 10, at 37-39.

36. *See, e.g.,* Epstein, *supra* note 10, at 649-52; Henderson, *supra* note 4, at 1531-34, 1539; Henderson, *Manufacturers' Liability for Defective Product Design: A Proposed Statutory Reform,* 56 N.C. L. REV. 625, 626 (1978); Hoenig & Goetz, *A Rational Approach to "Crashworthy" Automobiles: The Need for Judicial Responsibility,* 6 SW. U. L. REV. 1, 51-57 (1974).

37. For a more thorough discussion of the limits of adjudication see Henderson, *supra* note 4, at 1534-36, wherein the author discusses two seminal articles on the

method of resolving, on a case-by-case basis, the vague question of whether or not risks presented by a particular product are unreasonable.[38] When forced to make such decisions, courts must resolve complex and often times highly technical issues of design alternatives equipped only with legal principle reduced to its most basic degree of generalization: a balancing test. In effect, the courts are forced to second-guess the designers; they are forced to redesign the product themselves.[39] The result is to push the adjudicatory process to the brink of arbitrariness. Unless more specific middle ground rules of decision, consistent with the underlying cost-benefit principles, are developed, foreseeability, consistency, and other qualities of principled decisionmaking will continue to be lacking and the integrity of the judicial system will continue to be threatened.[40]

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subject by Professor Fuller. *See also* Fuller, *Adjudication and the Rule of Law*, 1960 PROC. AM. SOC'Y INT'L L. 1; Fuller, *Collective Bargaining and the Arbitrator*, 1963 WIS. L. REV. 3.

38. *See* Henderson, *supra* note 36, at 626:

> In this instance, the mischief may be described succinctly: the defect concept, upon which section 402A of the *Restatement (Second) of Torts* is premised, is an inadequate tool with which to determine liability in cases involving harm alleged to have been tortiously caused by manufacturers' conscious design choices. This inadequacy does not stem from the fact that the defect concept excludes important factors from consideration in design cases. Rather, the defect concept includes too many loosely interrelated factors, important and trivial, and renders impossible the essentially linear chains of logic upon which arguments in adjudication are of necessity based. In cases involving manufacturing flaws, the product design provides a specific, built-in standard against which to measure the legal adequacy of the particular product that injured the plaintiff. However, when the plaintiff attacks the product design itself, in the absence of any express promises or relevant statutory requirements regarding performance or design, no such specific, built-in standard is available. Instead, courts must rely upon the vague tort standard of "reasonableness under all the circumstances" in determining whether or not product designs are defective.

39. The court, like the defendant-designer, is not, of course, required to decide what would be an optimally safe product, but only what would be a reasonably safe product. Therefore, to the extent that the court is forced to balance the marginal risks and benefits of a design it is forced to reproduce the same process of decisionmaking followed by the designer. *See* text accompanying note 11 *supra*.

40. Confronted with the hopeless difficulties of trying to redesign products via adjudication and presumably unable to resist the social pressures generally favoring injured plaintiffs, courts would inevitably resort to some form of judicial coin-flipping, *i.e.*, they would begin to determine defendants' liability on some arbitrary basis rather than on the purported basis of the reasonableness of the product designs brought before them. Efforts to establish meaningful design standards would be abandoned in favor of allowing juries to determine defendants' liability upon no more substantial ground than their own untutored "good judgment," or whim. The shift in the basis of manufacturers' liability would be disguised, consciously or otherwise, by

These arguments are based on concern with the "process" of decisionmaking in product design cases. These process-oriented arguments recognize the underlying legitimacy of cost-benefit analysis as a matter of substance; indeed, they accept it as a premise.[41] The difficulty stems not from the inappropriateness of reasonableness as a substantive matter but from the mismatch of a vague rule of substance and a process of decision that requires substantive rules of greater specificity. What is called for is not the abandonment of reasonableness as the underlying conceptual basis of liability, but the working out of more specific rules of decision that reflect, without requiring frequent judicial reliance upon, the vague reasonableness standard. Although courts will hopefully play a role in the development of such rules,[42] it is likely that legislation will be necessary.[43] In any event, some judicial cost-benefit analysis on a case-by-case basis is recognized as inevitable.[44]

The present analysis is not intended in any way as an abandonment of the process concerns expressed elsewhere by this writer.[45] Indeed, the major significance of these recent decisions from a process perspective is the threat they pose to the ability of courts to participate in working out solutions to the problems involved in the inherent limits of adjudication. From a process perspective, the criticisms that follow are offered in a spirit of exasperation: Things were bad enough, why make them worse?

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heavy reliance upon the unsupported opinions of experts relating to the ultimate issue of the reasonableness of defendants' conscious design choices. The absence of any viable product safety standards with which to decide these cases, however, would be obvious even to the casual observer. In effect, the adjudicative process would largely become a sham. Although such tactics might render these cases manageable in the short run, they would do so at the cost of a serious erosion of confidence in the courts by those litigants who would correctly come to realize that they have been denied effective access to the adjudicative process by such subterfuge.

Henderson, supra note 4, at 1558. *See also* Henderson, *supra* note 36, at 626.

41. *See, e.g.*, Henderson, *supra* note 4, at 1540 ("Intelligent answers to the questions of 'How much product safety is enough?' . . . can only be provided by a process that considers such factors as market price, functional utility, and aesthetics, as well as safety, and achieves the proper balance among them.").

42. *See* note 65 *infra.*

43. *See generally* Epstein, *supra* note 6, at 660-61; Henderson, *supra* note 36, at 626-27.

44. *See, e.g.*, Henderson, *supra* note 4, at 1577 ("Courts should resist the pressures to adjudicate the reasonableness of conscious design choices, and give in only in those few cases where the polycentricity of the question can be narrowed and a judicial resolution appears preferable to no solution at all."). For a further discussion of the concept of polycentricity see notes 78-83 *infra* and accompanying text.

45. *See, e.g.*, Henderson, *supra* note 10; Henderson, *supra* note 36.

III. THREATS TO THE CONSENSUS: *BARKER, AZZARELLO* AND *SCHULDIES*

A. THE *Barker* DECISION IN CALIFORNIA

Of the recent design defect decisions examined in this Article, the decision of the Supreme Court of California in *Barker v. Lull Engineering Co.*[46] is undoubtedly the most significant. Emanating from the court that spawned *Cronin*[47] six years earlier, the *Barker* panel expressly sought to eliminate confusion over the application of the earlier decision to the issue of defective product design.[48] Moreover, it acknowledged the legitimacy of cost-benefit analysis in design cases, and thus may lull some observers into viewing the decision as an acceptable resolution of the design defect issue. The *Barker* court, however, applied the cost-benefit analysis with a unique twist which, if taken literally in cases to come, would undermine any chance the California courts might otherwise have had to maintain a degree of integrity of their design defect decisions.[49]

On its facts, *Barker* is typical of an increasingly important category of product design cases involving industrial machinery. The plaintiff, an industrial worker, was injured on the job when a high lift loader, operated by the plaintiff and manufactured by defendant Lull Engineering Co., tipped over and spilled its contents.[50] The plaintiff's experts testified that the machine should have been, but was not, equipped with several safety devices. The trial court, refusing to apply the *Cronin* rule in a design case, instructed the jury that "strict liability for a defect in design of a product is based on a finding that the product was unreasonably dangerous for its intended use."[51] The jury returned a general verdict for the defendants. On appeal, the Supreme Court of California held that the instructions on the design defect issue were erroneous in two respects: first, an injured plaintiff should not be required to prove that a product design is unreasonably dangerous; and second, a product's reasonably foreseeable use, as well as its intended use, should be considered in evaluating the defectiveness of its design.[52]

The first of these holdings, relating to the question of unreasonable danger, is of particular interest here. In considering whether the

46. 20 Cal. 3d 413, 573 P.2d 443, 143 Cal. Rptr. 225 (1978).

47. *See* notes 23-31 *supra* and accompanying text.

48. *See generally* notes 32-35 *supra* and accompanying text.

49. *See generally* notes 36-40 *supra* and accompanying text.

50. 20 Cal. 3d at 419, 573 P.2d at 447, 143 Cal. Rptr. at 229.

51. *Id.* at 422 n.4, 573 P.2d at 449 n.4, 143 Cal. Rptr. at 231 n.4.

52. 20 Cal. 3d at 426 n.9, 573 P.2d at 451-52 n.9, 143 Cal. Rptr. at 234 n.9. The court was correct in its conclusion that the "intended use" *only* requirement is inconsistent with prior case law. *See* notes 54-58 *infra* and accompanying text.

plaintiff is a design case should be required to demonstrate that the design is unreasonably dangerous, the court recognized that its decision in *Cronin* had generated confusion in the lower courts. In that decision, the court in *Barker* explained, it had meant what it said—the "unreasonably dangerous" terminology should not be utilized, even in cases involving allegedly defective designs. But, the court had never intended to imply what some commentators had inferred: that the defect concept, unadorned, should be the sole test for liability. Instead, the court's intent in *Cronin* had been to free lower courts to develop alternatives to the "unreasonably dangerous" terminology.[53] The opinion in *Barker* reflects the California high court's disappointment that such development had not taken place.

In any event, the court in *Barker* concluded that the time had come to set matters straight. Henceforth, two tests, among others that may yet be devised by lower courts in these cases, will be acceptable in California:

> [I]n design defect cases, a court may properly instruct a jury that a product is defective in design if (1) the plaintiff proves that the product failed to perform as safely as an ordinary consumer would expect when used in an intended or reasonably foreseeable manner, or (2) the plaintiff proves that the product's design proximately caused injury and the defendant fails to prove, in light of the relevant factors, that on balance the benefits of the challenged design outweigh the risk of danger inherent in such design.[54]

The first of these proposed tests is not new and is not likely to be controversial. It has been recognized by courts[55] and commentators,[56] and is consistent with traditional approaches in that it expressly places the burden of proof on the plaintiff. Indeed, except for an occasional suggestion to the contrary,[57] the "consumer expectations" approach is probably just one method of expressing the well-accepted "reasonableness under the circumstances" test in which the design defect issue is determined by means of a cost-benefit analysis.[58]

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53. 20 Cal. 3d at 429, 573 P.2d at 453, 143 Cal. Rptr. at 235.

54. 20 Cal. 3d at 426-27, 573 P.2d at 452, 143 Cal. Rptr. 234.

55. *See, e.g.*, Gilbert v. Stone City Constr. Co., 357 N.E. 2d 738, 741-42 (Ind. App. 1976); Vincer v. Esther Williams All-Aluminum Swimming Pool Co., 69 Wis. 2d 326, 330, 230 N.W.2d 794, 797 (1975). *See generally* RESTATEMENT (SECOND) OF TORTS § 402A, Comments g & i (1965); note 12 *supra*.

56. *See, e.g.*, Reynolds, *Strict Liability for Commercial Services—Will Another Citadel Crumble?*, 30 OKLA. L. REV. 298, 308-09, 315-16 (1977); Shapo, *A Representational Theory of Consumer Protection: Doctrine, Function and Legal Liability for Product Disappointment*, 60 VA. L. REV. 1109, 1294-96 (1974).

57. *See, e.g.*, Heaton v. Ford Motor Co., 248 Or. 467, 474, 435 P.2d 806, 809 (1967); Hubbard, *Reasonable* Human *Expectations: A Normative Model for Imposing Strict Liability for Defective Products*, 29 MERCER L. REV. 465, 468-70 (1978).

58. This conclusion seems inescapable if the test is "reasonable expectations"

The second test advanced in the *Barker* decision, purporting to shift the burden of proof to the defendant, represents a radical departure from tradition that could wreak havoc for years to come. Ironically, the *Barker* court seems to have gone out of its way to ensure that the new test will be applied literally. The court began by recognizing that cost-benefit analysis is appropriate in determining the defectiveness of product designs.[59] To make strict liability unequivocally distinct from negligence, however, the court deemed it necessary to shift to the defendant manufacturer the burden of proving that the benefits of the defendant's design choices outweighed their associated risks.[60] The plaintiff will not enjoy this advantage in every case; the burden will be shifted only after the plaintiff proves that the product design proximately caused the plaintiff's injury. Lest any doubt remain that the court meant exactly what it said, the opinion emphasized that the defendant's burden under this new test encompasses both the burden of persuasion and the burden of coming forward with evidence.[61]

Unless the California courts retreat from the literal meaning of the words used in the *Barker* opinion, the ability of courts to reach consistent results in clear cases will be seriously threatened. Thus, the integrity of judicial treatment of product design cases in that state will be undermined.[62] If the new test for liability is applied literally, every plaintiff represented by at least minimally competent counsel should succeed in shifting the burden to the defendant; and no defendant however capably represented will succeed, other than by agreeing to settle, in avoiding the retrospective evaluation of its design choices by lay jurors.[63] Directed verdicts for defendants, tradi-

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and the tribunal is asked to determine how much safety a consumer has a right to expect. If the California court intends the standard to be based on *actual* consumer expectations, then presumably it will require factual proof of those expectations, and the test will be essentially empirical. *Cf.* Heaton v. Ford Motor Co., 248 Or. 467, 470-75, 435 P.2d 806, 808-10 (1967) (jury must be presented with evidence of actual consumer expectations before it can decide whether product performed as an ordinary consumer would have expected).

59. 20 Cal. 3d at 433-34, 573 P.2d at 456-57, 143 Cal. Rptr. at 238-39.

60. 20 Cal.3d at 433, 573 P.2d at 456, 143 Cal. Rptr. at 238:

> [I]n *Cronin* our principal concern was that the "unreasonably dangerous" language of the Restatement test had "burdened *the injured plaintiff* with proof of an element which rings of negligence" . . . and had consequently placed "a considerably greater burden upon [the injured plaintiff] than that articulated in *Greenman.*" . . . By shifting the burden of proof to the manufacturer to demonstrate that an injury-producing product is not defective in design, the above standard should lighten the plaintiff's burden in conformity with our *Greenman* and *Cronin* decisions.

61. *See* 20 Cal. 3d at 431-32, 573 P.2d at 455, 143 Cal. Rptr. at 237.

62. *See generally* notes 36-40 *supra* and accompanying text.

63. Given the procedural context of the cases here being considered—*i.e.*, issues

tionally an important protection against arbitrary jury decisions in cases of doubtful merit, will occur even less frequently under the *Barker* rule literally applied than they occur under the existing majority rule.[64]

The obvious significance of denying courts the opportunity to direct verdicts for defendants is that plaintiffs may be able to win more cases. But the real significance of *Barker* goes beyond the immediate effect it may have on the distribution of wealth, significant though such an effect might be. Indeed, one may have faith in the ability of most jurors to refuse recovery in meritless cases and still be concerned with the implications of the *Barker* decision. At the heart of the problem is the very different function performed by judges and juries in the adjudicative process. Jury decisions are, by hypothesis, unique to the facts of particular cases; what one jury decides in one case in no way binds the next jury in the next case. In contrast, whenever judges decide cases for defendants as a matter of law, potentially, at least, they establish precedents that are binding in future cases. Of course, a judge in a particular case, lacking an adequately specific rule of decision, may respond intuitively in deciding that the plaintiff has failed to carry his burden of proof. Even if such a decision has relatively little precedential value in and of itself, over time it can be hoped that middle ground categorizations will emerge that reflect the patterns of judicial reactions in individual cases. In fact, this describes fairly accurately the common law process of incremental rule development which is nowhere more needed presently than in the field of liability for defective product design.[65] At the very least, it is to be expected that the reactions of judges when confronted with questions of "reasonable" design, even if they are no less intuitive than the reactions of a jury,[66] will tend to be more consistent given the opportunity to participate in a number of cases.

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on appeal concerning appropriate jury instructions—the text will refer to "sending design cases to the jury." Obviously, the analysis applies equally to situations in which the judge functions as the trier of fact.

64. Indeed, it appears likely that directed verdicts under the new *Barker* rule would more often than not be rendered against, rather than in favor of, defendant manufacturers.

65. *See* notes 40-44 *supra* and accompanying text. Were the burden of proof to remain with the plaintiff, as under traditional approaches, the direction of a verdict for the defendant would imply nothing more than that *this* particular plaintiff's proof failed; the court would be free to listen to a different plaintiff's arguments in a different case. Even though judges in subsequent cases would be free to address the issue notwithstanding direction of verdicts for defendants in previous cases, if sufficient numbers of such tentative decisions were to occur across a range of slightly differing fact patterns, it is likely that some judge would survey the decisional patterns and establish a relatively specific rule for the future.

66. *See* note 40 *supra* and accompanying text.

Any chance of assuring this minimal consistency in outcome, however, or of engaging in this important process of middle ground rule formulation, depends on the ability of courts to direct verdicts for defendants in clear cases. Even if a majority of jurors can be expected to react rationally, the system should attempt to provide protection against the occasionally irrational verdict in a clear case. At the very least, precious judicial resources are wasted when juries are relied on to decide cases that should, as a matter of law, be recognized as without merit. A system that sends every case to the jury is, in the final analysis, a lawless system.[67] That even the Supreme Court of California would be unhappy with such a regime is suggested by the *Barker* protestation against holding manufacturers absolutely liable in products cases.[68] Indeed, it is likely that the court failed to appreciate fully the implications of its holding.

To appreciate the implications of the new test advanced in *Barker,* it is useful to compare that test with the traditional approach it purports to replace. Under existing law, the plaintiff in a design case typically argues that one or more alternative design choices were available at the time the product was designed which, had they been adopted by the defendant, would have reduced or prevented the plaintiff's injuries.[69] The plaintiff's lawyer will almost always be able to hypothesize an alternative that would have helped his client to escape injury. As experienced products liability lawyers appreciate, the difficulties of proving a case come not in positing potentially helpful design alternatives, but in establishing their cost-effectiveness. To carry his burden of producing sufficient evidence to get to the jury on the question of the cost-effectiveness of a posited design alternative, the plaintiff frequently must rely on speculative, hypothetical expert testimony.[70] As a general rule, the more question-

67. *See, e.g.,* Wilkerson v. McCarthy, 336 U.S. 53, 65 (1949) (Frankfurter, J., concurring) ("The easy but timid way out for a trial judge is to leave all cases tried to a jury for jury determination, but in so doing he fails in his duty . . . . A timid judge, like a biased judge, is intrinsically a lawless judge.").

68. "[The new] text for defective design . . . subjects a manufacturer to liability whenever there is something 'wrong' with a product's design . . . *while stopping short of making the manufacturer an insurer for all injuries which may result from the use of its product.*" 20 Cal. 3d at 432, 573 P.2d at 456, 143 Cal. Rptr. at 238 (emphasis added).

69. Although proof of a practical alternative is not often imposed explicitly as a formal requirement, plaintiffs in most design cases are forced by the circumstances to establish the defectiveness of the defendants' designs by pointing to a safer alternative. *See, e.g.,* McCormack v. Hankscraft Co., 278 Minn. 322, 335, 154 N.W.2d 488, 498 (1967). *Cf.* note 11 *supra* and accompanying text (use of cost-benefit analysis). *See generally* Henderson, *supra* note 4, at 1565-73.

70. *See generally* Donaher, Piehler, Twerski & Weinstein, *supra* note 16; Phillips, *supra* note 5, at 112-19.

able the plaintiff's claim on the merits, the more speculative the testimony upon which he must rely. In cases of doubtful merit, courts can and do step in and direct verdicts for defendants on the ground that the plaintiff has failed to carry his burden of producing evidence.[71]

In contrast to the traditional approach just described, under *Barker,* the cost-effectiveness issue has been divorced from the issue of proximate cause and has for the first time been made part of the defendant's case. In effect, the plaintiff's lawyer is released by the *Barker* rule from the requirement of establishing practical feasibility as part of his prima facie case. Instead, the plaintiff is required only to posit an alternative that could have been adopted by the defendant and that would have been helpful in reducing or avoiding the plaintiff's injuries. Once the plaintiff does this much (and absent any necessary concern for practicability, it is not much), he has established his prima facie case under the *Barker* rule: that the defendant's design choices proximately caused the plaintiff's injuries. Thereafter, under *Barker,* it is up to the defendant to prove that its design choices were reasonable in light of available alternatives. Given this significant lessening of the plaintiff's burden, plaintiffs should succeed in establishing a prima facie case in virtually every instance.[72]

The manner in which plaintiffs will invariably establish a prima facie case under the *Barker* test can be illustrated by means of a hypothetical example. Assume that the plaintiff is a ten-year-old boy who receives head injuries when he trips on a sidewalk and falls head first into the side of a parked automobile. Assume further that his head strikes an unyielding panel of reinforced sheet metal constituting the outer skin of the vehicle. Under existing law, one might safely assume that the plaintiff would have a difficult time getting to the jury in such a case. Obviously, he might insist that the defendant auto manufacturer should have padded the side of the vehicle, and that such a design alternative would have reduced or perhaps even eliminated his injuries. But the plaintiff could not hope to carry his burden of producing sufficient evidence to support a favorable conclusion on the issue of the cost effectiveness of his suggested design alternative. No auto manufacturer installs this type of padding on the

71. For a good example of the sort of difficulty the plaintiff can expect in such a case, see Garst v. General Motors Corp., 207 Kan. 2, 484 P.2d 47 (1971).

72. The only situations in which the plaintiff would not succeed in establishing a prima facie case would be those in which there was obviously nothing the manufacturer could have done to prevent the harm—where, for example, a plaintiff, having tripped over a book and fallen down a flight of stairs, sues the book manufacturer on a theory of defective design.

outside of its vehicles. The plaintiff would only be able to offer theoretical expert testimony in an effort to overcome the presumption of adequacy favoring existing designs under the current majority rule.[73] Confronted with little more than untested, hypothetical testimony from the plaintiff's expert, the trial court could be expected to step in at the end of the plaintiff's case and direct a verdict for the defendant on the ground that the plaintiff had failed to make out a prima facie case. Under existing law, a sensible plaintiff's lawyer would look for someone else to sue—perhaps the maintainer of the sidewalk whose negligence, it could be alleged, caused the boy to trip.[74]

If the *Barker* test is applied literally, a rather different scenario would unfold in the hypothetical case just described. Beyond doubt, the plaintiff could establish his prima facie case of proximate cause. The manufacturer, it would be argued, should have padded the side of the car in a described manner. An expert on behalf of the plaintiff would testify that padding could have been supplied, and that if the right amount had been in place the head injuries would not have occurred. For reasons that will become clear, the plaintiff would not be nearly so concerned, as he would be under existing law, with whether it would have been practical to include that amount of padding. For purposes of this analysis, however, it is assumed that the plaintiff could show that the amount needed to make a difference was not, on its face, outrageously impractical.[75] According to the explicit terms of the *Barker* holding, the plaintiff need not demonstrate its cost-effectiveness as part of his prima facie case. Thus, he would have established that the defendant's choice of unyielding sheet metal proximately caused his injuries, and the burden would shift to the defendant to justify its design choices.[76]

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73. The word "presumption" is not used here in a technical, legal sense. Rather, it refers to an evidentiary technique frequently employed by plaintiffs under existing law: pointing to the fact that other manufacturers did provide the safer alternative that the defendant allegedly should have provided, plaintiffs attempt to carry their burden of proof of unreasonable design. Where such proof is not available, the plaintiff has a more difficult evidentiary task. To be sure, a whole industry may have lagged and fallen below acceptable design standards, but as a practical matter, that circumstance is more difficult to prove. *See* note 86 *infra.*

74. American courts have generally denied recovery to pedestrians and bicyclists who have sued automobile manufacturers following collisions with stationary vehicles. *See, e.g.,* Kahn v. Chrysler Corp., 221 F. Supp. 677 (S.D. Tex. 1963); Hatch v. Ford Motor Co., 163 Cal. App. 2d 393, 329 P.2d 605 (1958). *See generally* Note, *The Automobile Manufacturer's Liability to Pedestrians for Exterior Design: New Dimensions in "Crashworthiness,"* 71 MICH. L. REV. 1654, 1668-75 (1973).

75. If it would require six inches of foam rubber to protect the plaintiff, the case would probably best be categorized as a "nothing would help" case. *See* note 72 *supra;* text accompanying notes 87 & 88 *infra.*

76. Of course, a trial court might conclude that the plaintiff had failed to estab-

Of course, the ease with which a plaintiff can establish a prima facie case and avoid a directed verdict after presenting his evidence will not be particularly significant so long as the court is in a position, at the end of the presentation of the defendant's evidence, to direct a verdict for the defendant in a case that is obviously without merit. Although such an approach might involve some waste of judicial resources,[77] at least defendants would be protected against irresponsible jury verdicts. Under a literal application of *Barker,* however, it is not likely that the defendant would ever be able to introduce sufficient evidence to warrant a directed verdict in its favor at the close of the trial.

The unlikelihood of a defendant prevailing as a matter of law flows directly from the unique nature of the issue for decision in a product design case. In the final analysis, a judgment of whether a design is unreasonably dangerous is a value judgment, requiring in most cases the evaluation and balancing of many interrelated factors. This judgmental task has elsewhere been described by this writer as polycentric.[78] Polycentric tasks are planning tasks whose various elements are as interrelated as the strands of an intricate web.[79] No single element may adequately be considered in isolation from the others; as one aspect is altered hypothetically for purposes of evaluation and analysis, the network of interconnections causes all the other aspects and elements to adjust and change correspondingly.

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lish a prima facie case because the plaintiff had failed to show that injuries of this sort were "reasonably foreseeable." Such a ruling would be contrary to the new approach in *Barker,* however, where the defendant, and not the plaintiff, must rely on the unlikelihood of injury as a part of proving the cost-ineffectiveness of padding. To require the plaintiff to show that unpadded vehicle exteriors cause much harm would be, in effect, to require the plaintiff to prove the cost-effectiveness of padding.

77. As a practical matter, trial courts may wait until the end of trial to direct verdicts, or may even wait until a jury returns a plaintiff's verdict to enter a judgment for defendant notwithstanding the verdict. If either approach is routinely adopted, then the cost implications of the *Barker* case referred to in the text will be small.

78. *See* Henderson, *supra* note 4, at 1534-42.

79. *See id.* at 1536:

> If one strand is pulled, a complex pattern of readjustments will occur throughout the entire web. If another strand is pulled, the relationships among all the strands will again be readjusted. A lawyer seeking to base his argument upon established principle and required to address himself in discourse to each of a dozen strands, or issues, would find his task frustratingly impossible. As he moved from the first point of his argument to the second and then to the third, he would find his arguments regarding the earlier points shifting beneath him. Unlike most of the traditional types of cases in which litigants are able, in effect, to freeze the rest of the web as they concentrate upon each separate strand, the web here retains its natural flexibility, adjusting itself in seemingly infinite variations as each new point, or strand, in the argument is reached.

As noted earlier, this writer has employed the concept of polycentricity to argue that courts are inherently unsuited to address the questions of defective product design on a case-by-case basis, aided by nothing more specific than a test of "reasonableness under the circumstances."[80] Essentially, these process concerns stem from the unique kind of participation promised to litigants that sets adjudication apart as a decisional process: the opportunity to present proofs and arguments to an impartial tribunal that is bound to determine the relevant facts and to apply legal rules to reach reasoned results. Implicit in this promise of participation is the necessity that the proofs and arguments be based on rules that are specific enough to enable litigants to argue rationally that a proper application of the legal rules will obligate the court to come to a certain result. To be sure, the exercise of some discretion in judicial decisionmaking is both beneficial and inevitable; however, legal rules must be specific enough to arrange the issues for decision into an essentially linear configuration, allowing each issue to be addressed and, in effect, resolved before moving on to the next. Without such minimum specificity, litigants confront an overwhelming number of permutations and combinations of possibilities. Because subissues cannot be ordered and isolated for argument and decision, the participation of litigants in the adjudicatory process is reduced to presenting more and more conclusory arguments and proof on either side of the single reasonableness issue, and finally, entreating the tribunal to exercise its plenary discretion in their favor.

Putting these process concerns to one side for the moment, in the present context of attempting to demonstrate that defendants will almost never be able to introduce sufficient evidence to warrant directed verdicts in their favor, the polycentricity concept has an additional, somewhat different relevance. For present purposes, the significance of the polycentric quality of the design defect issue resides in the following unique characteristic of such issues: unlike the more focused issues traditionally presented in litigation guided by more specific rules of decision, the task of resolving a polycentric issue typically becomes more, rather than less, difficult with the addition of evidence and argument.[81] As more elements are examined, the combinations and permutations of interconnected possibilities expand geometrically; the more elaborate the arguments made by both sides, the more confusing the issue for decision is likely to be.[82] Since

80. *See* notes 37-44 *supra* and accompanying text.

81. Anyone who has ever tried to select an oriental rug from a large collection will appreciate intuitively the validity of the point being made here. Quite literally in these cases, the more you learn the more difficult it is to decide.

82. For a treatment of the problems associated with expert testimony in products

both sides will introduce relevant data for consideration, and since in the ensuing "battle of experts" every technical point will be met with counterpoints that, in turn, will stimulate counter-counterpoints, it is unlikely that the defendant will succeed in rendering the reasonableness issue so clear that reasonable minds could not differ. Virtually all product design cases will therefore go to the jury under the *Barker* test literally applied.[83]

That plaintiffs would succeed in reaching juries under the *Barker* rule in practically every case may be illustrated by returning to the hypothetical example of the young plaintiff who bangs his head into a parked automobile. After the plaintiff establishes his prima facie case that the hardness of the vehicle's sheet metal side proximately caused his injuries and that padding would have helped reduce or eliminate the injuries, the defendant manufacturer will bear the burden of producing evidence in support of its decision to use unpadded sheet metal. Assuming that the plaintiff's insistence on padding is more than a little dubious, the defendant would succeed in carrying its burden of coming forward with evidence and thus would avoid a directed verdict for the plaintiff. Padding, after all, is expensive and would add to the maintenance costs. Moreover, sheet metal provides a beneficial safety factor in other auto collision contexts. Once the defendant has carried its burden of coming forward, the plaintiff will introduce evidence supporting the cost-effectiveness of padding as an alternative to reinforced sheet metal. Padding, it turns out, is not nearly so expensive as the defendant would have one believe. Maintenance costs could be minimized by toughening the outer skin. Furthermore, the safety factor associated with sheet metal, exaggerated in the defendant's presentation, could be duplicated by strengthening the inside panels along the sides of the automobile. Since motor vehicles are ubiquitous on the streets of America, collisions between vehicles and pedestrians are a significant source of accident costs;[84] the marginal savings in life and limb would more than outweigh any marginal increase in costs generated by the installation of padding. Finally, the fact that no automobile manufacturer to date has chosen to pad the exterior of its vehicles is no bar to recovery.[85]

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liability cases, see authorities cited in note 70 *supra,* and for a treatment of similar problems in the field of medical malpractice litigation, see Myers, *"The Battle of the Experts:" A New Approach to an Old Problem in Medical Testimony,* 44 NEB. L. REV. 539 (1965).

83. *See* note 63 *supra* and accompanying text.

84. *See generally* Note, *supra* note 74, at 1654.

85. The general rule in torts is that conformance with industry custom does not bar recovery. *See* T.J. Hooper v. Northern Barge Corp., 60 F.2d 737, 740 (2d Cir. 1932). This rule is recognized in product design cases. *See, e.g.,* Canifax v. Hercules Powder

Bearing in mind that the plaintiff need only keep the issue in reasonable doubt to be entitled to reach the jury, one can easily imagine that, even in this rather outlandish example, a trial court would refuse to direct a verdict for the defendant under a vague standard of "reasonableness under all the circumstances." Admittedly, the plaintiff's evidence would be no more convincing than it would have been under the traditional approach where the plaintiff would have presumably suffered a directed verdict for defendant. But the standard against which the plaintiff's evidence is measured would under *Barker* be very different. Under the traditional approach, the plaintiff bears the burden of producing sufficient evidence to put the design defect issue in reasonable doubt, and courts can occasionally direct verdicts for defendants by pointing to the speculative nature of the plaintiff's proof. Under the new test in *Barker,* however, the *defendant* bears that burden. Thus, under *Barker* it will be the defendant who is forced, to some extent at least, to rely on speculative, hypothetical testimony to support the reasonableness of its design choices;[86] the plaintiff need only fend off the defendant's evidentiary points with equally credible points of his own.

A caveat is in order with respect to the conclusions just reached in connection with the hypothetical example. In an earlier discussion of the proximate cause aspects of the example,[87] it was assumed that the plaintiff could establish that some conceivably feasible amount of padding would have helped to reduce the plaintiff's injuries. Although it is correctly observed in that earlier discussion that the plaintiff would be not nearly so concerned with cost-effectiveness as he would be under existing law, now it must be explicitly recognized that even under *Barker* the plaintiff cannot totally abandon a concern for practicality. For example, if it would have required a minimum of six inches of exterior padding to have helped the plaintiff in the hypothetical case, the arguments on the issue of feasibility would be so imbalanced as to permit a directed verdict for the defendant notwithstanding the shifted burden of proof. Such a case may be seen as an exception to the general rule, recognized earlier, that competently represented plaintiffs will always be able to establish proximate cause.[88] In choosing this "padded car" example to illustrate the risks inherent in the *Barker* approach, the Author may appear to have

Co., 237 Cal. App. 2d 44, 46 Cal. Rptr. 552 (1965); Murray v. Bullard Co., 110 N.H. 220, 265 A.2d 309 (1970).

86. It is an unavoidable fact of life that convincing, or even credible, evidence regarding costs and benefits is difficult to obtain. *See, e.g.,* Conway v. O'Brien, 111 F.2d 611, 612 (2d Cir. 1940) (L. Hand, J.), *rev'd on other grounds,* 312 U.S. 492 (1941).

87. *See* notes 72-76 *supra* and accompanying text.

88. *See* note 72 *supra* and accompanying text.

gone too far from the start, picking an example so outrageous that even under a literal application of *Barker,* the defendant would prevail as a matter of law.

It takes only a relatively minor adjustment in the facts of the hypothetical case, however, to dispel any serious doubts about the extent of the problems that *Barker* creates. Suppose that instead of injuring himself on the unyielding side panel of a car, the young plaintiff trips, falls, and lacerates the right side of his face on a sharp ridge on the top of the fender. Assume further that it is clear that a smoother, rounder, albeit non-padded, surface would have practically eliminated serious injury to the boy. For the reasons advanced above, a trial court that adhered to the *Barker* rule in such a case would face a very difficult task in rationalizing a directed verdict for the defendant. Although courts have not allowed recovery in similar cases under existing law,[89] *Barker* supplies an analytical framework in which recovery, given a favorable jury verdict, would be all but impossible to judicially deny. And, after a number of plaintiffs have succeeded in reaching juries in a range of pedestrian-vehicle collision cases involving a variety of exterior design components, who could say with confidence that one-half inch of padding would be so absurd in such a "brave new system" as to justify directing a verdict for the defendant? The "padded car" illustration may strike some readers as so extreme as to be inappropriate as an example of the risks posed by the *Barker* decision. If the new California test is applied literally and enthusiastically in years to come, however, this writer predicts that comparable cases will come to be accepted as routine.

These conclusions regarding the unlikelihood of product design defendants prevailing as a matter of law under *Barker* are supported by the traditional patterns of decision, drawn from all legal fields, in which courts have directed verdicts in favor of parties bearing the burden of proof.[90] A careful examination of such cases reveals that, without exception, courts have had available to them specific standards that substantially eliminated the openendedness and polycentricity of the issues for decision.[91] The availability of specific standards in such cases transforms the issues for decision from ones of "reasonableness under all the circumstances," which would almost

89. *See* cases cited in note 74 *supra.*

90. *See generally* F. JAMES & G. HAZARD, CIVIL PROCEDURE 247-49 (2d ed. 1977).

91. Frequently, the specific standard is contained in a contract between the parties. *See, e.g.,* Holz Rubber Co. v. American Star Ins. Co., 14 Cal. 3d 45, 533 P.2d 1055, 120 Cal. Rptr. 415 (1975). In negligence cases, a specific safety statute may provide the basis for "negligence per se." *See, e.g.,* Martin v. Herzog, 228 N.Y. 164, 126 N.E. 814 (1920). *See generally* Note, *Directing the Verdict in Favor of the Party with the Burden of Proof,* 50 N.C. L. REV. 843 (1972).

always present questions of credibility, evaluation, and competing inferences, into relatively narrow issues of primary fact. In the absence of legitimate controversy over the actual facts in such cases, directed verdicts for the parties bearing the burden of proof are justified. When specific standards are not available, directing verdicts for parties bearing the burden of proof has universally been recognized as inappropriate, especially when the evidence is conflicting.[92] Hence, in the absence of specific rules of decision in product design cases, it would represent a radical departure from precedent were courts to direct verdicts for defendant manufacturers bearing the burden of proving a conclusion as openendedly polycentric as the "reasonableness of the defendant's design choices under the circumstances."

Of course, even under *Barker,* trial courts could direct verdicts for defendants in design cases if the courts were ready to establish relatively specific rules of decision governing the various categories of product designs.[93] But such a process of judicial rule development will almost certainly not occur under the new approach announced in *Barker.* As was observed earlier, under existing law, a trial judge who feels that a product design case is without merit can justify a directed verdict for the defendant in terms of the plaintiff's failure to carry his burden of producing evidence, without stating a specific rule of decision.[94] If sufficient numbers of judges in similar cases react similarly, a rule eventually emerges. By removing the opportunity of justifying a directed verdict for the defendant in terms of the plaintiff's burden of production, the new test in *Barker* threatens to bring this incremental process of rule development, slow enough under existing law,[95] to a halt. Under the regime inaugurated by that decision, courts will be required to choose between resorting to the extraordinary judicial technique of formulating rules "once and for all" with which to direct verdicts for defendants in cases of doubtful merit,[96]

92. *See, e.g.,* Sweeney v. Erving, 228 U.S. 233, 240 (1913); George Foltis, Inc. v. City of New York, 287 N.Y. 108, 119-23, 38 N.E. 2d 455, 459-63 (1941); Sams v. Albers Super Markets, Inc., 86 Ohio App. 167, 169-70, 89 N.E. 2d 101, 103 (1949); MacDonald v. Pennsylvania R.R., 348 Pa. 558, 562-63, 36 A.2d 492, 494-95 (1944); Wyatt v. Moran, 81 R.I. 399, 404-05, 103 A.2d 801, 803-04 (1954); Terwilliger v. Marion, 222 S.C. 185, 187, 72 S.E. 2d 165, 166 (1952); Texas Employers' Ins. Ass'n v. Roberts, 135 Tex. 123, 128, 139 S.W.2d 80, 83 (1940).

93. For example, in the earlier hypothetical situation involving the feasibility of padding the outsides of automobiles, the court could conclude that reasonable minds could not differ on the issue—*i.e.,* that the only inference possible from the defendant's proof is that padding is not required. In effect, the court would be creating a specific "per se" rule upon which to base that conclusion.

94. *See* text accompanying notes 65 & 66 *supra.*

95. *See* note 151 *infra* and acompanying text.

96. Perhaps the most famous example of this technique is Justice Holmes' opin-

or sending those cases to the jury. It is too much to expect that courts will formulate standards on their own; sending cases to the jury will come to be the only judicial response in product design cases decided under the vague standard of "reasonableness under the circumstances." The Supreme Court of California may have believed that it could benefit plaintiffs "somewhat" by shifting the burden of proof to defendants, without undermining the integrity of the common law system of liability for defective product design. It should be clear that this was a serious error. The new test in *Barker* will, if accepted generally and applied literally, eliminate any opportunity for judicial rule development in this difficult area of products liability.

Notwithstanding the concern expressed in the foregoing paragraphs, some observers can be expected to attempt to justify the *Barker* rule by viewing it as analogous to the traditional application of the *res ipsa loquitur* doctrine.[97] In that connection, it must be understood that the situation in the typical product design case is very different from the situation confronting the plaintiff in the classic case involving application of *res ipsa loquitur.* Two features of *res ipsa* cases, neither of which are typically present in product design cases, justify shifting the burden of proof to the defendant: First, the circumstances in a *res ipsa* case strongly suggest that the plaintiff's injury would not have occurred absent some act of negligence by the defendant.[98] Second, the defendant has relatively greater access to information regarding what actually happened.[99] In product design cases, it is considered to be improper to infer a defect in design merely because the plaintiff was injured while using, or otherwise being affected by, a product.[100] To be sure, *res ipsa* was employed in early flaw

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ion for a unanimous Court in Baltimore & Ohio R.R. v. Goodman, 275 U.S. 66 (1927), in which the defendant was held to have established the plaintiff's contributory negligence as a matter of law based on the latter's failure to stop at a railroad crossing, get out of his automobile, and look to see if a train was approaching: "[W]e are dealing with a standard of conduct, and when the standard is clear it should be laid down *once for all* by the Courts." 275 U.S. at 70 (emphasis added). Significantly, the Court reversed itself unanimously only seven years later, two years after Justice Holmes had retired. *See* Pokora v. Wabash R.R., 292 U.S. 98, 106 (1934).

97. *See generally* W. PROSSER, HANDBOOK OF THE LAW OF TORTS §§ 39-40 (4th ed. 1971).

98. *See generally id.* § 39, at 214-21.

99. *See generally id.* § 39, at 225-26.

100. *See, e.g.,* Dudley Sports Co. v. Schmitt, 279 N.E.2d 266 (Ind. App. 1972); South Austin Drive-In Theater v. Thomison, 421 S.W.2d 933 (Tex. Civ. App. 1967). *See also* cases cited in note 10 *supra.*

The Supreme Court of California would appear to agree with this conclusion. *See* note 68 *supra* and accompanying text. The *Barker* court undoubtedly believed that the requirement that the plaintiff establish a *proximate* cause connection between the product design and the plaintiff's injury would provide a guide for screening meritless cases.

cases to permit the jury to draw an inference of negligence from the fact of a product flaw.[101] But, *res ipsa* was used in that context as a transition device to achieve absolute manufacturers' liability for harm caused by product flaws.[102] In the product design area, in contrast to cases involving flaws,[103] courts unanimously agree that manufacturers are not to be held absolutely liable for harm caused by their product designs.[104] Moreover, unlike the situation in the typical *res ipsa* case involving a product flaw, the defendant in a typical product design case does not have substantially greater access than does the plaintiff to pertinent information about feasible alternative design choices.[105] Further, modern rules of discovery are aimed at providing the plaintiff with reasonable access to data concerning the defendant's design procedures and choices.[106] Hence, the new test in *Barker* receives little support by analogy to traditional applications of the *res ipsa loquitur* doctrine.

Most courts in other jurisdictions that have considered *Barker* have rejected it out of hand.[107] Even within California it is not clear

101. *See, e.g.*, Escola v. Coca Cola Bottling Co., 24 Cal. 2d 453, 459, 150 P.2d 436, 439 (1944).

102. *See id.* at 440 (Traynor, J., concurring).

103. *See* note 5 *supra*.

104. *See* note 100 *supra*.

105. The point is not that the resources or access to expertise of the typical plaintiff are necessarily as great as are those of the typical corporate defendant. For a description of the differences in resources between plaintiffs and defendants in this regard, see Donaher, Piehler, Twerski & Weinstein, *supra* note 16, at 1316 n.40, 1326-27. Rather, the point is that the defendant does not exercise direct control over the plaintiff's access to information regarding alternative design choices not adopted by the defendant. A classic example of the defendant's control over the plaintiff's access to information in a *res ipsa* setting is to be found in Ybarra v. Spangard, 25 Cal. 2d 486, 154 P.2d 687 (1944), in which the only persons who could have known how the plaintiff came to be injured were the defendants. The court assumed that unless the burden was shifted to the defendants in that case they would refuse to tell the court what they knew. *Id.* at 490, 154 P.2d at 689. In product design cases, however, the plaintiff has access to independent experts who are capable of describing the range of available alternative design choices. Although it may generally be true that manufacturers have an edge over plaintiffs regarding the numbers of experts at their command, they have by no means cornered the market. Professor Donaher and his colleagues conclude that the imbalance between plaintiffs and defendants can be redressed by the courts being more liberal in qualifying plaintiffs' experts and in limiting "reckless" cross-examination. *See* Donaher, Piehler, Twerski & Weinstein, *supra* note 16, at 1326-27.

106. *See generally* F. JAMES & G. HAZARD, *supra* note 90, at 171-212; Hofeld, *Value of Discovery in a Products Liability Case*, 14 TRIAL LAW. GUIDE 501 (1970).

107. *See, e.g.*, Vineyard v. Empire Mach. Co., 581 P.2d 1152, 1154 (Ariz. App. 1978); Wilson v. Piper Aircraft Corp., 282 Or. 411, 411, 579 P.2d 1287, 1287 (1978) (denial of petition for rehearing) ("Under [*Barker*], it appears that a design defect case will always go to the jury if only the plaintiff can show that the product caused

whether lower courts will follow *Barker* literally, at least without further importuning from their high court. In two recent product design decisions by intermediate appellate courts in California, defendants prevailed as a matter of law because the plaintiffs failed to establish prima facie cases.[108] The opinions reveal, however, that the courts in those cases imposed upon the plaintiffs the burden of production with regard to the issue of reasonableness.[109] In effect, the intermediate appellate courts paid lip service to the new test announced in *Barker* and then proceeded to apply the traditional approach by building cost-benefit analysis back into the issue of proximate cause. Whether the Supreme Court of California will recognize the good sense of such "glosses" on its decision, and choose to let them stand, is an interesting question. This writer, obviously, would urge the court to do exactly that. If, instead, the court insists that its new test be applied literally, then the courts in other jurisdictions, which are not so bound, should refuse to be taken in.

B. THE *Azzarello* DECISION IN PENNSYLVANIA

Both the facts and the major issue on appeal in *Azzarello v. Black Brothers Company, Inc.*[110] are similar to those of the *Barker* case. The plaintiff, an industrial employee, was injured, allegedly because of a defectively designed coating machine manufactured and sold to plaintiff's employer by the defendant. Reacting to the plaintiff's theories of negligence and strict liability, the trial court's instructions to the jury relied heavily on the "defective condition unrea-

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the injury."). *See also* Epstein, *supra* note 10, at 651 ("*Barker* represents all that is unwise in design defect litigation."). *But see* Caterpillar Tractor Co. v. Beck, 593 P.2d 871 (Alaska 1979) (adopting *Barker* two-pronged test).

108. *See* Garcia v. Joseph Vince Co., 84 Cal. App. 3d 868, 148 Cal. Rptr. 843 (1978); Korli v. Ford Motor Co., 84 Cal. App. 3d 895 (1978).

109. For example, the plaintiff in *Garcia,* a fencer, received facial injuries when a sharp edged sabre penetrated the wire mesh of a fencing mask manufactured by the defendant. The plaintiff argued that it was foreseeable that sharp pointed sabres would occasionally (albeit rarely and accidentally) be used, and that the mask should have been designed differently to prevent penetration. The plaintiff's expert testified that an alternative could have been adopted that would have prevented plaintiff's injuries. The appellate court concluded that the plaintiff failed to meet his burden of proof on proximate cause and that the *Barker* rule would not apply to shift the burden of proving reasonableness to the defendant. The court reasoned that the plaintiff had failed to show that the same injury was not possible with any *standard* mask, the evidence having shown that such masks "are not necessarily supposed to withstand penetration by a broken blade." 84 Cal. App. 3d at 878, 148 Cal. Rptr. at 849. Clearly, by invoking the norm of "standard masks," the court in *Garcia* placed a burden on the plaintiff to establish that such masks, including the one he used, were unreasonably dangerous in design.

110. 391 A.2d 1020 (Pa. 1978).

sonably dangerous" language from section 402A of the Second Restatement of Torts.[111] Following a jury verdict for the defendant manufacturer, the plaintiff moved for a new trial on the ground that the Supreme Court of Pennsylvania,[112] following California's lead in *Cronin v. J.B.E. Olson Corp.*,[113] had eliminated the phrase "unreasonably dangerous" from the definition of defect. The superior court, *en banc,* agreed with the plaintiff and ordered a new trial.[114] The defendant appealed.

In a manner reminiscent of the California court in *Barker,* the Supreme Court of Pennsylvania seized upon this case as an opportunity to articulate a new and different test for design defect and, in the process, reached conclusions that can only be described as extraordinary. At the outset, the court recognized the relevance of cost-benefit analysis in cases of this sort, agreeing with the widely held view "that the phrase 'unreasonably dangerous' serves a useful purpose in predicting liability"[115] in the area of product design. Remarkably, however, the court concluded that the issue of unreasonable danger should never be given to the jury to decide. Instead, issues such as "when does the utility of a product outweigh the unavoidable danger it may pose?" are exclusively questions of law for the judge.[116] "It is a judicial function to decide whether, under plaintiff's averment of the facts, recovery would be justified; and only after this judicial determination is made is the cause submitted to the jury to determine whether the facts of the case support the averments of the complaint."[117]

One could read the opinion as simply reaffirming the traditional role of the trial judge in screening the adequacy of the plaintiff's case as a response to a defendant's motion for directed verdict. But why, then, speak in terms of the trial court's measuring the adequacy of the plaintiff's "averments?" And what, at a minimum, must the plaintiff aver? Obviously, the court will not require the plaintiff to aver that the defendant's product design created unreasonable risks; a major premise of the decision is that juries should not be allowed to address that issue. But if the plaintiff is not to include averments of unreasonable danger in his complaint, how may a trial court fairly employ those concepts in testing the sufficiency of that complaint?

111. *See id.* at 1022. *See also* note 8 *supra.*

112. Berkebile v. Brantley Helicopter Corp., 462 Pa. 83, 337 A.2d 893 (1975).

113. 8 Cal. 3d 121, 501 P.2d 1153, 104 Cal. Rptr. 433 (1972); *see* notes 23-35 *supra* and accompanying text.

114. 391 A.2d at 1023.

115. *Id.* at 1026.

116. *Id.*

117. *Id.*

And if judicial screening for adequacy is to take place at the pleading stage, from what source will the court obtain the information necessary to undertake a cost-benefit analysis?

The confusion in the Pennsylvania court's treatment of the division of function between judge and jury finds its source in the erroneous notion that a cost-benefit analysis can somehow be useful for the guidance of judges and lawyers but not for the juries of laypersons to whom responsibility for decision will ultimately be given in close cases. The court appears to have gotten this idea from Professor Wade's formulation of the seven factors that are relevant in determining defective product design.[118] In his analysis, Professor Wade addressed the question of whether the jury should invariably be instructed regarding all seven factors, concluding that such an approach is unnecessary.[119] Instead, he suggested that the jury typically be given a shortened version, in which the concept of the "reasonable manufacturer with knowledge of the risks" serves as a more readily understandable surrogate for the list of factors.[120] Whenever one of the factors plays an important role in a case, according to Professor Wade, it should be included in the jury instructions.[121]

Obviously, the Supreme Court of Pennsylvania has misunderstood the earlier analysis upon which it purports to rely. In suggesting that courts refrain from instructing the jury on all seven factors in every design case, Professor Wade did not propose that the jury be precluded from engaging in cost-benefit analysis. Indeed, his "reasonable manufacturer" substitute would seem to invite the jury to consider whether the costs of the defendant's design choices exceeded their benefits.[122] Stripped of the rhetoric, what the Pennsylvania court seems to be saying in *Azzarello* is that while cost-benefit analysis on a case-by-case basis is necessary and proper in product design cases, a jury of laypersons cannot be trusted to perform that analysis.

To the extent that the *Azzarello* decision assigns to the judge full responsibility for this issue in cases given to the jury to decide, it renders less meaningful the opportunity of the parties to have their case heard by a jury. If cost-benefit analysis is an essential part of the law of product design liability, and if judges may appropriately

118. *See* notes 13-16 *supra* and accompanying text. The *Azzarello* court relied heavily on Professor Wade's article in its reasoning. *See* 391 A.2d at 1025-26 nn.8-10.

119. *See* Wade, *supra* note 7, at 840.

120. *See id.* at 839-40.

121. *See id.* at 840-41.

122. This is very much the same function as is served by the "reasonably prudent person" instruction in negligence cases. *See generally* Henderson, *Expanding the Negligence Concept: Retreat from the Rule of Law,* 51 IND. L.J. 467, 478-79 (1976).

employ that analysis to screen the sufficiency of plaintiff's averments on a case-by-case basis, then juries should be allowed to participate in that analysis in cases given to them to decide. Again, this writer would urge that middle ground rules of greater specificity be developed to reduce direct dependence on the reasonableness concept; but in close cases where cost-benefit analysis is unavoidable, if meaningful trial by jury is to be afforded, the jury must participate in that analysis.[123]

On the other hand, if cost-benefit analysis is not properly a part of the law governing the defective product design, it should be eliminated altogether. Courts may properly refrain from giving unduly complicated instructions likely to confuse jurors, but in close cases given to them to decide, the jurors must apply rules of decision that in substance are the same as those employed by the court.[124]

Having concluded that the concept of unreasonableness should not be used by juries in resolving the design defect issue, the court in *Azzarello* proceeded to adopt a test for inclusion in jury instructions which, if taken literally, will radically change and hopelessly confuse the law of product design liability in Pennsylvania. Relying on language from one of its own recent decisions to the effect that a manufacturer is a "guarantor of his product's safety,"[125] the court concluded:

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123. For an interesting comparison in the field of criminal law see United States v. Taylor, 464 F.2d 240 (2d Cir. 1972). In *Taylor*, Judge Friendly overturned the longstanding but much criticized "Second Circuit Rule" which had been laid down by Judge Hand in United States v. Feinberg, 140 F.2d 592, 594 (2d Cir.), *cert. denied*, 322 U.S. 726 (1944). Under the "Second Circuit Rule" the judge, upon a criminal defendant's motion for directed verdict of acquittal, decided whether or not the question should go to the jury using the same standard as in a civil case: whether reasonable men could find a preponderance of evidence for the state. If the question went to the jury, it applied the traditional "beyond a reasonable doubt standard." In overturning this aberrational approach, Judge Friendly reasoned that the judge and jury should apply the same standard. *Id.* at 242. Failure to apply the same standard meant that in some cases, albeit very few, the jury was operating beyond its province.

The problem with the *Azzarello* court's holding is analogous but in reverse. Allowing the judge to decide reasonableness, but not the jury, means that the jury will not be able to operate to the full extent of its widely accepted province in the area of torts: close findings of reasonableness. Close questions of unreasonable danger will be determined by the judge instead of the jury.

124. There are some phrases in tort law—for example, "res ipsa loquitur"—that are employed by lawyers and courts in analyzing cases but are not included in jury instructions. *See* J. HENDERSON & R. PEARSON, THE TORTS PROCESS 365 (1975). But it must be understood that *res ipsa* is a rule of evidence relating to the sufficiency of the plaintiff's proof and not a substantive rule of decision. Once the court gives a *res ipsa* case to the jury, the jury applies a negligence standard that is substantively the same as that applied by the court.

125. Salvador v. Atlantic Steel Boiler Co., 457 Pa. 24, 32, 319 A.2d 903, 907 (1974).

> For the term guarantor to have any meaning in this context the supplier must at least provide a product which is designed to make it safe for the intended use. Under this standard, in this type case, the jury may find a defect where the product left the supplier's control *lacking any element necessary to make it safe* for its intended use *or possessing any feature that renders it unsafe* for the intended use.[126]

Read literally, this definition constitutes a radical departure from the growing consensus that cost-benefit analysis is the appropriate analytic method for determining the design defect issue in close cases. The element that distinguishes this new test from the emerging consensus, of course, is the apparently deliberate elimination of the modifier "reasonable" in connection with the adjective "safe." Taken literally, this test condemns as defective any product design that exposes its users to risks, regardless of whether those risks are justified in light of associated benefits.

Combining the several aspects of this unusual decision, a two-step approach emerges: First, the trial judge must screen the adequacy of the plaintiff's averments in the complaint, somehow employing a cost-benefit analysis to determine the unreasonableness of the design-related risks as a matter of law. Then, assuming that the case is appropriate for jury consideration, the court must instruct the jury to decide the liability issue on the basis of whether the design could possibly (rather than reasonably) have been made safer for its intended use.[127] Viewed most charitably, such an approach to the design defect issue is confused and unworkable. Viewed realistically, the new test announced in *Azzarello* encourages juries to impose liability merely because plaintiffs have somehow been injured while using defendant's products.

C. The *Schuldies* Decision in the United States District Court

The decision of the United States District Court for the Eastern District of Wisconsin in *Schuldies v. Service Machinery Co.*[128] vividly reflects the confusion in Wisconsin case law on the subject of defective product design. The facts in *Schuldies* closely parallel those in the two cases already considered. The plaintiff, a tool-and-diemaker, was injured when he accidently stepped on the foot pedal of a punch press, activating the machine and causing it to crush his hand.[129] The plaintiff based his action on separate counts of negligence and strict liability relating to the design of the foot pedal mechanism. At the

126. 391 A.2d at 1027 (emphasis added).
127. *Id.* at 1022.
128. 448 F. Supp. 1196 (E.D. Wis. 1978).
129. *Id.* at 1199.

close of trial, the jury found that "the punch press with the foot [pedal] was not 'in such defective condition as to be unreasonably dangerous to a prospective user.'"[130] Inexplicably, the jury also found that the defendant manufacturer was "negligent in the manner in which it designed, constructed, and equipped the punch press with the foot switch."[131] Insisting that the jury verdict was inconsistent and not supported by the greater weight of the evidence, the defendant moved for judgment notwithstanding the verdict and for a new trial. Applying dictum from a Wisconsin decision to the effect that "there may be recovery for the negligent design of a product even though it is not unreasonably dangerous in the 402A sense,"[132] the district court denied the motions.[133] Even assuming the validity of the defendant's position that there can be no recovery if the jury finds the product safe for prospective users, the district court refused to equate the jury's finding of "not . . . unreasonably dangerous" with "safe."[134] According to the district court, Wisconsin decisions reflected a concern that the plaintiff in an action for negligent design not be required to prove special or extraordinary danger posed by the design.[135] A plaintiff who establishes the defendant's negligence in designing the product, therefore, may recover notwithstanding a jury finding that the product design was not unreasonably dangerous.

Although it is understandable that a federal court would feel bound to rely on oft-repeated dicta in state supreme court opinions, there can be little doubt that the result reached in *Schuldies* is unacceptable in principle. The essence of the negligence concept in a product design case is the creation of an unreasonable risk of harm by the defendant's choice of available design alternatives.[136] To speak of a manufacturer behaving unreasonably in making such choices is to speak of the manufacturer adopting a design that is unreasonably dangerous. The concept of "choice" in this context is the bridge that unites the unreasonably dangerous activity of the manufacturer with the unreasonably dangerous result of that activity, the defective design.[137] The growing consensus regarding the appropriateness of cost-benefit analysis in determining defective product design recognizes the essential unity between the analysis of the designer's unreasonable choices and the design's unreasonable risks. Assuming that the

130. *Id.*

131. *Id.*

132. *Id.* at 1200 (quoting Greiten v. LaDow, 70 Wis. 2d 589, 603, 235 N.W.2d 677, 685 (1975) (Heffernan, J., concurring) *See* note 148 *infra* and accompanying text.

133. 448 F. Supp. at 1201.

134. *Id.* at 1200.

135. *Id.* at 1201.

136. *See generally* W. PROSSER, *supra* note 97, at 644-46.

137. *See* text accompanying notes 17-22 *supra.*

same meaning is given to the concept of unreasonableness under both negligence and strict liability,[138] a designer cannot have been negligent in designing a product and at the same time have chosen a design that is not unreasonably dangerous and therefore not defective.

This is not to say that negligence and defective design are necessarily synonymous as used in the area of defective product design. As was earlier observed, because a presumption of defendant's knowledge of design-related risks is included in one widely-recognized test for design defect,[139] it is possible for a non-negligent designer to produce an unreasonably dangerous, and thus defective, design. It cannot logically work the other way around, however; the designer cannot have been negligent in his design choices unless the resulting design poses an unreasonable risk of harm. Of course, a manufacturer may have been negligent in marketing a product design, even though that design, properly marketed, would not be unreasonably dangerous.[140] But the jury finding in *Schuldies* expressly limited the defendant's negligence in that case to "the manner in which [the manufacturer] designed, constructed, and equipped the punch press with the foot switch."[141]

How could the courts in Wisconsin have wandered into such a morass regarding the relationship between negligence and strict liability in these product design cases? The confusion dates back more than a decade to *Dippel v. Sciano,*[142] in which the Supreme Court of Wisconsin equated strict liability with "negligence per se" as an analytical means of applying that state's comparative fault principle.[143] Two branches of thought regarding the relevance of the unreasonably dangerous concept in negligent design cases appear to have developed from that decision. One branch, epitomized by the self-styled "majority" opinion of Justice Hansen in *Greiten v. LaDow,*[144] a deci-

138. Even those who urge the adoption of strict liability for defective design recognize that the cost-benefit analysis is the same in both instances. *See* note 22 *supra* and accompanying text. *See also* Aller v. Rodgers Mach. Mfg. Co., 268 N.W.2d 830 (Iowa 1978).

139. *See* note 21 *supra* and accompanying text.

140. *See* RESTATEMENT (SECOND) OF TORTS § 388 (1965). Failure to provide adequate warnings may also cause the product to be defective for that reason. *See id.* § 402A, Comment j.

For an interesting recent decision reconciling a "no defect, manufacturer negligent" verdict on the basis of the manufacturer's failure to warn, see Bigham v. J.C. Penney Co., 268 N.W.2d 892, 897 (Minn. 1978). *See also* Comment, 63 MINN. L. REV. 995 (1979) (discussing *Bigham*).

141. 448 F. Supp. at 1199.

142. 37 Wis. 2d 443, 155 N.W.2d 55 (1967).

143. *Id.* at 461-62, 155 N.W.2d at 64-65.

144. 70 Wis. 2d 589, 235 N.W.2d 677 (1975).

sion upon which the district court in *Schuldies* relied,[145] insists that the plaintiff in a negligence action must establish that the product design was unreasonably dangerous.[146] The other branch, epitomized by the "concurring" opinion of Justice Heffernan in *Greiten*,[147] insists to the contrary. Although the district court in *Schuldies* accurately points out that the so-called "concurrence" in *Greiten* was in fact the majority opinion,[148] it is nevertheless clear that the assertion of the irrelevance of a finding of unreasonable danger was dictum in any event; all of the justices in *Greiten* agreed that the plaintiff's proof had failed regardless of the legal theory relied upon. Moreover, language to the same effect contained in another recent case upon which the district court in *Schuldies* relied was also clearly dictum.[149] Thus, although the federal district court judge in *Schuldies* was justified in concluding that a majority of the justices of the Supreme Court of Wisconsin would have resolved the issue in that case as he did, there is reason to hope that the Wisconsin state courts will consider themselves free to rethink the question when it is next presented to them for decision.

IV. CONCLUSION

Within the past year, three potentially influential courts have threatened to postpone, if not prevent, the emerging consensus supporting cost-benefit analysis as the appropriate conceptual basis for determining liability for defective product design. Basically, all three decisions appear to recognize the substantive legitimacy of cost-benefit analysis in design cases. They do so, however, in ways that either needlessly confuse the decisionmaking process or assure that it will be reduced to an essentially unprincipled, "jury's whim" approach to resolving the issue of defective design. The Supreme Court of California, by shifting the burden of proof to the defendant to show that its design choices were reasonable, has seemingly assured that plaintiffs will reach the jury in all but the most absurd design cases. The Supreme Court of Pennsylvania, by attempting to reserve cost-benefit analysis as the exclusive province of the judiciary, has committed the courts of that commonwealth to a confusing and probably unworkable approach to resolving the question of liability in these cases. And a federal district court in Wisconsin, by taking the law of

145. *See* 448 F. Supp. at 1200.

146. 70 Wis. 2d 594-98, 235 N.W.2d at 681-93.

147. *See* 70 Wis. 2d at 599-604, 235 N.W.2d at 683-86.

148. 448 F. Supp. at 1200. This fact had been previously recoznized by the Wisconsin Supreme Court in Howes v. Deere & Co., 71 Wis. 2d 268, 274, 238 N.W.2d 76, 80 (1976).

149. *See* Howes v. Deere & Co., 71 Wis. 2d 268, 274, 238 N.W.2d 76, 80 (1976).

that state the final step to severing all conceptual ties between negligent design and strict liability, has embraced a pattern of results in product design cases that can only be described as inconsistent and nonsensical. The first two decisions are potentially more troublesome than the third, and the first—the California decision purporting to shift the burden of proof to the defendant—is unquestionably the most problematic of all. None of the courts appear to have appreciated the implications of their decisions.

In arguing in support of the growing consensus on the issue of defective product design, this writer trusts that he will not be misunderstood to imply that the process concerns expressed elsewhere[150] have been totally or even subtantially assuaged by developments in recent years. To the contrary, the gradual formulation of a consensus favoring cost-benefit analysis has been accompanied in some jurisdictions by a lamentable tendency of courts to routinely address problems beyond their inherent competence.[151] From the perspective of

150. *See* notes 41-44 *supra* and accompanying text.

151. No better example of this tendency may be found than the decision of the Texas Supreme Court in Gonzales v. Caterpillar Tractor Co., 571 S.W.2d 867 (Tex. 1978), a case already cited as part of the growing consensus favoring cost-benefit analysis in product design cases. *See* note 10 *supra*. The plaintiff in that case, a front-end loader operator, was severely injured when he slipped on the metal step leading from the cab of the machine to the ground. The step was 22 inches off the ground and was muddy due to the loader being operated under extremely wet conditions. The plaintiff had used the step thousands of times before, under all conditions, and knew that it was muddy on the day of the accident. Handholds were designed into the machine to help minimize the risk of falling. The plaintiff argued in favor of a retractable ladder arrangement that would function somewhat like a drawbridge. The defendant insisted that, while such an alternative had been used on some types of front-end loaders, it had never been used on machines of the sort involved in that case, and would be counterproductive for the type of work for which the machine in question was specifically designed. After trial, the jury returned a verdict for the plaintiff on a negligence and defective design theory.

On appeal, the intermediate court reversed, holding insufficient the plaintiff's proof of defective design. *See* Caterpillar Tractor Company v. Gonzales, 562 S.W.2d 573 (Tex. Civ. App. 1977). Pointing to evidence that no similar injuries had been reported in 15 years of use of the same design, and describing the plaintiff's suggested alternatives as obvious "no contest items" from a balance of safety viewpoint, 562 S.W.2d at 579, the appellate court refused to participate in what it characterized as a "jury-whim" approach to the issue of defective product design. *Id.* at 580. On appeal, the Texas Supreme Court reversed again and remanded to the appellate court for further proceedings concerning points not reached by that court. 571 S.W.2d at 872. On the main issue raised on appeal, the high court held that there was evidence from which the jury could conclude that the tractor in question was negligently designed. *Id.* Reading the two opinions in this case side by side, it is submitted that the Texas Supreme Court, in refusing to accept the intermediate court's analysis, missed an opportunity to render meaningful the plaintiff's burden of proof in product design cases.

substance rather than process, however, the conceptual basis for determining liability for unreasonably dangerous design choices is, almost by definition, a cost-benefit analysis that weighs risk against utility. Indeed, it was the appropriateness of that analysis as a matter of substance that elsewhere prompted this writer to speculate that the process difficulties being encountered were "inevitable."[152]

The real irony associated with the three recent decisions analyzed in this Article is that they come at a time when the process difficulties, though still substantial, may be diminishing. Putting these decisions aside for a moment, at least two developments in recent years offer hope that "middle ground" rules of decision will be worked out that will reduce the polycentricity in design cases to manageable levels: first, the growing tendency for courts in some jurisdictions to direct verdicts for defendants in obviously meritless cases, accompanied by tentative efforts to develop workable rules of decision;[153] and second, the prospect that legislatures may contribute, hopefully in a responsible manner, to the rule development process.[154]

Whatever may otherwise have been the chances that these developments would have achieved significant reductions in the process difficulties associated with the issue of defective product design, the three decisions examined in this Article threaten to delay or prevent that achievement. Presumably, legislatures are free to reverse the impacts of these decisions; however, it is not clear that legislatures in the affected states will move to correct the situation or whether, in any event, legislative attempts at correction would pass judicial

152. *See* Henderson, *supra* note 122, at 485-86.

153. *See, e.g.*, Randolph v. Collectramatic, Inc., 590 F.2d 844 (10th Cir. 1979) (directed verdict for manufacturer of commercial pressure cooker upheld because of lack of adequate expert testimony; mere fact of explosion insufficient to support conclusion that design defective); Dreisonstok v. Volkswagenwerk, A.G., 489 F.2d 1066 (4th Cir. 1974) (although recognizing auto manufacturer's duty to provide reasonable passenger safety in "second collisions," court reversed trial court judgment for plaintiff and remanded with instructions to direct verdict for manufacturer when plaintiff attacked design of rear-engine microbus as "inherently dangerous"); Leonard v. Albany Mach. & Supply Co., 339 So.2d 458 (La. App. 1976) (manufacturer of wood trimmer component on saw mill not required to provide safety shield since shields customarily provided by individual mills; multifunctional nature of product important factor in determining defectiveness of design); Temple v. Wean United, Inc., 50 Ohio St. 2d 317, 364 N.E.2d 267 (1977) (power press not defective as matter of law notwithstanding manufacturer's failure to incorporate fixed barrier guard, where applicable safety code provided for either fixed barrier guard or two-hand tripping device and machine was equipped with latter safety device).

154. *See generally* Henderson, *The Gathering Momentum Toward Statutory Reform*, 1 CORP. L. REV. 41 (1978); *Products Liability Symposium*, 56 N.C. L. REV. 623 (1978). The Department of Commerce has recently published the first draft of a proposed Uniform Product Liability Law. *See* 44 Fed. Reg. 2996 (1979).

scrutiny under state constitutions.[155] Therefore, it is important that these recent departures from the growing consensus be rejected firmly and unanimously. As explained above, it may still be possible for courts in the jurisdictions directly involved to rethink the matter and put things right. Whether or not that occurs, courts elsewhere should take the first opportunity to disassociate themselves from these disturbing developments.

155. Properly viewed, remedial legislation should encounter no difficulties, but the possibility cannot be overlooked. For a recent analysis of the somewhat analogous situation in the field of medical malpractice reform, see Redish, *Legislative Response to the Medical Malpractice Insurance Crisis: Constitutional Implications*, 55 TEX. L. REV. 759 (1977). Professor Redish catalogs various state efforts to create legislative guidelines in the medical malpractice field—including ceilings on damages, shortened statutes of limitations, pretrial screening panels, and arbitration of claims—and discusses the constitutional obstacles that have stood in the way of their enactment. These legislative efforts have come under equal protection and substantive due process attack. *See id.* at 769-90. They have also been assailed as diluting the right to a jury trial, violating the constitutional separation of powers, and depriving access to the courts. *See id.* at 790-800.